

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A moving picture coding method for coding a an inputted coded moving picture signal on a picture-by-picture basis and generating a coded stream, wherein the inputted coded moving picture signal includes coded picture data for each picture, and display order information for each picture, and the display order information for each picture has a value indicating the display order of the respective picture, the method comprising:

a detecting step of detecting whether the values of the display order information for the pictures to be included in the generated coded stream are sequential or non-sequential;

a flag information generation step of generating a flag information indicating that the values of the display order information or coding order information of the picture is are non-sequential when said detecting step detects that the values of the display order information for the pictures to be included in the generated coded stream are non-sequential; and

a coded stream generating step of generating a coded stream comprising: the coded picture data for each picture to be included in the generated coded stream; and an information insertion step of inserting the flag information inserted into the coded stream so as to indicate a position among the coded picture data where the display order of the pictures is non-sequential.

2. (Canceled).

3. (Canceled).

4. (Currently Amended) The moving picture coding method according to Claim 1, wherein in the information insertion coded stream generating step, the flag information is inserted between two pictures in the generated coded stream, said two pictures being non-sequential in picture display order.

5. (Canceled).

6. (Currently Amended) A moving picture coding method for coding a an inputted coded moving picture signal on a picture-by-picture basis and generating a coded stream, wherein the inputted coded moving picture signal includes coded picture data for each picture, and display order information for each picture, and the display order information for each picture has a value indicating the display order of the respective picture, the method comprising:

a detecting step of detecting whether the values of the display order information for the pictures to be included in the generated coded stream are sequential or non-sequential;

a flag information generation step of generating a flag information indicating that the values of the display order information or coding order information of the picture is are non-sequential when said detecting step detects that the values of the display order information for the pictures to be included in the generated coded stream are non-sequential;

a coding coded stream generating step of coding the moving picture into generating a coded stream comprising: a predetermined coding unit and a further coding unit such that the predetermined coding unit comprises a plurality of picture data of respective pictures to be included in the generated coded stream including a first intra picture and such that the further coding unit is located after the predetermined coding unit and comprises picture data of a picture whose position display order is later than a position display order of the first intra picture among the pictures included in the predetermined coding unit in display order; and the flag inserted an information insertion step of inserting the flag information into the coded stream so as to indicate a position among the coded picture data where the display order of the pictures is non-sequential.

7. (Currently Amended) The moving picture coding method according to Claim 6, wherein in the coding coded stream generating step, the moving picture is coded stream is generated such that a display order of pictures in the predetermined coding unit is sequential, and such that the display order of the pictures in said predetermined coding unit is located earlier than a display order of pictures in a predetermined coding unit immediately following said predetermined coding unit in coding order.

8. (Currently Amended) A moving picture decoding method for decoding, on a picture-by-picture basis, a coded stream comprising: coded picture data for each picture included in the coded stream; display order information for each picture included in the coded stream; and a flag inserted into the coded stream so as to indicate a position among the coded picture data where the display order of the pictures is non-sequential ~~on a picture-by-picture basis~~, the method comprising:

an information extraction step of extracting the flag information indicating a position among the coded picture data where values of the ~~that~~ display order information ~~or~~ decoding order information of the ~~picture~~ pictures is non-sequential; and

a management step of managing an ~~a~~ storage memory area for storing a decoded picture based on the flag information.

9. (Currently Amended) The picture decoding method according to Claim 8,
~~wherein the flag information indicates that values indicated by the display order information of the pictures are in non-sequential order, and~~

~~——~~ in the management step, a picture having a value of display order information that indicates that the picture whose position is the earliest in display order among decoded pictures stored in the storage memory area is determined based on the display order information and the flag information, and the determined picture is determined as a picture to be removed.

10. (Currently Amended) The moving picture decoding method according to Claim 9,
~~wherein in the management step, clip information is given to the decoded picture stored in the storage memory area, said clip information being updated when the flag information is extracted, and a picture whose position is the earliest in display order among the decoded pictures stored in the area is determined based on the display order information and the clip information, and the determined picture is determined as a picture to be removed.~~

11. (Currently Amended) The moving picture decoding method according to Claim 8, further

comprising an invalid picture storage step of storing an invalid picture in the storage memory area when values indicated by the coding display order information of the pictures are in non-sequential order,

wherein the flag information indicates that the values indicated by the coding order information are in non-sequential order;

— in the management step, whether or not to store an invalid picture in the area is determined based on the flag information and the coding display order information, and

in the invalid picture storage step, an invalid picture is stored in the storage memory area based on a result of the determination made in the management step.

12. (Currently Amended) A moving picture coding apparatus for coding a-an inputted coded moving picture signal on a picture-by-picture basis and generating a coded stream, wherein the inputted coded moving picture signal includes coded picture data for each picture, and display order information for each picture, and the display order information for each picture has a value indicating the display order of the respective picture, the apparatus comprising:

a detecting unit operable to detect whether the values of the display order information for the pictures to be included in the generated coded stream are sequential or non-sequential;

a flag information generation unit operable to generate a flag indicating that the values of the display order information are non-sequential when said detecting unit detects that the values of the display order information for the pictures to be included in the generated coded stream are non-sequentialinformation indicating that display order information or coding order information of the picture is non-sequential; and

a coded stream generating unit operable to generate a coded stream comprising: the coded picture data for each picture to be included in the generated coded stream; and the flag inserted into the coded stream so as to indicate a position among the coded picture data where the display order of the pictures is non-sequentialan information insertion unit operable to insert the flag information into the coded stream.

13. (Currently Amended) A moving picture decoding apparatus for decoding, on a picture-by-picture basis, a coded stream comprising: coded picture data for each picture included in the coded stream; display order information for each picture included in the coded stream; and a flag inserted into the coded stream so as to indicate a position among the coded picture data where the display order of the pictures is non-sequential ~~on a picture-by-picture basis~~, the apparatus comprising:

an information extraction unit operable to extract the flag indicating a position among the coded picture data where values of the display order information of the pictures is non-sequential ~~flag information indicating that display order information or coding order information of the picture is non-sequential~~; and

a management unit operable to manage an a storage memory area for storing a decoded picture based on the flag information.

14. (Currently Amended) A computer readable recording medium encoded with a computer program for coding an inputted coded moving picture signal on a picture-by-picture basis and generating a coded stream, wherein the inputted coded moving picture signal includes coded picture data for each picture, and display order information for each picture, and the display order information for each picture has a value indicating the display order of the respective picture, ~~a moving picture signal on a picture-by-picture basis and generating a coded stream~~, the program causing a computer to execute at least:

a detecting step of detecting whether the values of the display order information for the pictures to be included in the generated coded stream are sequential or non-sequential;

a flag information generation step of generating a flag indicating that the values of the display order information are non-sequential when said detecting step detects that the values of the display order information for the pictures to be included in the generated coded stream are non-sequential; and

a coded stream generating step of generating a coded stream comprising: the coded picture data for each picture to be included in the generated coded stream; and the flag inserted into the coded stream so as to indicate a position among the coded picture data where the display order of the

pictures is non-sequential.

- a flag information generation step of generating flag information indicating that display order information or coding order information of the picture is non-sequential; and
- an information insertion step of inserting the flag information into the coded stream.

15. (Currently Amended) A computer readable recording medium encoded with a computer program for decoding, on a picture-by-picture basis, a coded stream comprising: coded picture data for each picture included in the coded stream; display order information for each picture included in the coded stream; and a flag inserted into the coded stream so as to indicate a position among the coded picture data where the display order of the pictures is non-sequential on a picture-by-picture basis, the program causing a computer to execute at least:

- an information extraction step of extracting the flag indicating a position among the coded picture data where values of the display order information of the pictures is non-sequential; and
- a management step of managing a storage memory area for storing a decoded picture based on the flag.
- an information extraction step of extracting flag information indicating that display order information or coding order information of the picture is non-sequential; and
- a management step of managing an area for storing a decoded picture based on the flag information.